

1. The present communication is an Annex to the invitation to pay additional fees (Form PCT/ISA/206). It shows the results of the international search established on the parts of the international application which relate to the invention first mentioned in claims Nos.:
2. This communication ~~is not~~ the international search report which will be established according to Article 18 and Rule 43. ^{see 'Invitation to pay additional fees'}
3. If the applicant does not pay any additional search fees, the information appearing in this communication will be considered as the result of the international search and will be included as such in the international search report.
4. If the applicant pays additional fees, the international search report will contain both the information appearing in this communication and the results of the international search on other parts of the international application for which such fees will have been paid.

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	EP 0 694 543 A (BAYER AG) 31 January 1996 (1996-01-31) page 91 - page 94; claim 1 page 83; examples 124, 125 page 2, line 3 - line 4	1-8, 10-17, 20-23, 26-45
Y	EP 0 352 781 A (E.I. DU PONT DE NEMOURS AND COMPANY) 31 January 1990 (1990-01-31) page 51 - page 54; claim 1 page 2, line 4 - line 6	1-8, 10-17, 20-23, 26-45
A	BRICKNER S J: "OXAZOLIDINONE ANTIBACTERIAL AGENTS" CURRENT PHARMACEUTICAL DESIGN, BENTHAM SCIENCE PUBLISHERS, SCHIPHOL, NL, vol. 2, 1996, pages 175-194, XP001007528 ISSN: 1381-6128 the whole document; in particular, page 187, Figure (2); and page 189, column 2, last paragraph - page 190, column 2, Table IX ----- -/-	1-8, 10-17, 20-23, 26-45

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents:

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another claim or other special reason (as specified)
- *O* document relating to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

- *T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- *Z* document member of the same patent family

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	<p>WO 01/94342 A (DONG A PHARM. CO., LTD; LEE, JAE-GUL; LEEM, WON-BIN; CHO, JONG-HWAN; C) 13 December 2001 (2001-12-13) page 163 - page 170; claim 1 page 107; example 80 page 98; example 63 page 1, paragraph 1</p>	<p>1-8, 10-17, 20-23, 26-45</p>
X	<p>WO 01/81350 A (ASTRAZENECA AB; ASTRAZENECA UK LIMITED; GRAVESTOCK, MICHAEL, BARRY; BE) 1 November 2001 (2001-11-01)</p> <p>page 127 - page 134; claim 1 page 139; claim 12</p>	<p>1-8,12, 14,16, 20,22, 26-34, 41-43</p>
E	<p>WO 2005/012271 A (RIB-X PHARMACEUTICALS, INC; WU, YUSHENG; CHEN, SHILI; CHEN, YI; HANSEL) 10 February 2005 (2005-02-10)</p> <p>page 66 - page 68; examples 6,7; compounds 66,67 page 75 - page 78; example 13; compounds 155,156</p>	<p>1-6,8, 10,11, 13-17, 26-30, 32-45</p>
E	<p>WO 2005/019211 A (RIB-X PHARMACEUTICALS, INC; ZHOU, JIACHENG; BHATTACHARJEE, ASHOKE; CHE) 3 March 2005 (2005-03-03)</p> <p>page 173 - page 176; example 13; compounds 96,97 page 192; example 27; compound 127 page 217 - page 219; example 54; compound 402</p>	<p>1-6,8, 10,11, 13-17, 30,32-45</p>

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 206

Continuation of Box 3.

Present claims 1-45 relate to "prodrugs" of the compounds of the present general formula.

The term "prodrug" is considered to lead to a lack of clarity within the meaning of Article 6 PCT because this term does not comprise any information as regards the structure of the compounds concerned. It is therefore impossible to compare the said "prodrug" compounds with what is set out in the prior art. The lack of clarity is such as to render a meaningful complete search impossible. Consequently, the said "prodrugs" have not been searched.

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-8 (all partly), 10-15 (all partly), 16, 17, 20 (partly), 21 (partly), 22, 23 and 26-45 (all partly);

the compounds of the present claim 1 wherein Het-CH₂-R₃ represents a 5-(R₃-CH₂)-2-oxo-oxazolidin-3-yl group and A and B are phenyl;

2. claims: 1-4 (all partly), 8 (partly), 10-13 (partly) and 26-45 (all partly);

the compounds of the present claim 1 wherein Het-CH₂-R₃ represents a 5-(R₃-CH₂)-2-oxo-oxazolidin-3-yl group, A is phenyl, B is selected from pyridyl, pyrazinyl, pyrimidinyl and pyridazinyl, X is -NR₄-, and M is other than formyl and C1-4acyl;

3. claims: 1-4 (all partly), 8 (partly), 10-13 (partly), 26-29 (all partly) and 32-45 (all partly);

the compounds of the present claim 1 wherein Het-CH₂-R₃ represents a 5-(R₃-CH₂)-2-oxo-oxazolidin-3-yl group, A is phenyl, B is selected from pyridyl, pyrazinyl, pyrimidinyl and pyridazinyl, and X is -NR₄NR₄-;

4. claims: 1-4 (all partly), 8 (partly), 10-13 (partly), 26-29 (all partly) and 32-45 (all partly);

the compounds of the present claim 1 wherein Het-CH₂-R₃ represents a 5-(R₃-CH₂)-2-oxo-oxazolidin-3-yl group, A is phenyl, B is selected from pyridyl, pyrazinyl, pyrimidinyl and pyridazinyl, and X is -S-;

5. claims: 1-7 (all partly), 9-15 (all partly), 18, 19, 20 (partly), 21 (partly), 24, 25 and 26-45 (all partly);

the compounds of the present claim 1 wherein Het-CH₂-R₃ represents a 5-(R₃-CH₂)-2-oxo-oxazolidin-3-yl group, A is selected from pyridyl, pyrazinyl, pyrimidinyl and pyridazinyl, B is phenyl, and X is -NR₄- or -NR₄NR₄-;

6. claims: 1-7 (all partly), 9-15 (all partly), 18, 19, 20 (partly), 21 (partly), 24, 25, 26-29 (all partly) and 32-45 (all partly);

the compounds of the present claim 1 wherein Het-CH₂-R₃ represents a 5-(R₃-CH₂)-2-oxo-oxazolidin-3-yl group, A is selected from pyridyl, pyrazinyl, pyrimidinyl and pyridazinyl, B is phenyl, and X is -S-, and M is other than acetyl;

7. claims: 1 (partly), 4-12 (all partly) and 26-45 (all partly);

the compounds of the present claim 1 wherein Het-CH₂-R₃ represents a 2-(R₃-CH₂)-5-oxo-isoxazolin-4-yl group;

8. claims: 1 (partly), 4-12 (all partly) and 26-45 (all partly);

the compounds of the present claim 1 wherein Het-CH₂-R₃ represents a 5-(R₃-CH₂)-isoxazolin-3-yl group;

9. claims: 1 (partly), 4-12 (all partly) and 26-45 (all partly);

the compounds of the present claim 1 wherein Het-CH₂-R₃ represents a 5-(R₃-CH₂)-2-oxo-5H-furan-3-yl group;

The present application lacks unity within the meaning of Rule 13 PCT for the following reasons:

The document EP-A-0694543 (D1) discloses (cf., pages 91-94, claim 1) i.a. 3-{4-(acylaminoalkyl)phenyl}-(pyridinyl/pyrazinyl/pyrimidinyl...etc.))-5-(aminomethyl)-2-oxo-oxazolidines which are said to have antibacterial activity (see, page 2, lines 3-4).

More specifically D1 discloses (see, page 83, the compounds of the examples 124 and 125) two compounds which are excluded from the present claim 1 by virtue of the present proviso (see, the last two compounds of the present proviso).

The document EP-A-0352781 (D2) discloses (cf., pages 51-54, claim 1) i.a. 3'-4'-(acyloxyalkyl)-4-biphenyl-5-(aminomethyl)-2-oxo-oxazolidine derivatives (cf., the definition of X = -C(R₆)(R₂₃)-O-C(=O)-R₈ according to claim 1 of D2) which differ from the present compounds only in that they are 4'-(acyloxyalkyl)-biphenyl derivatives rather than 4'-(acylaminoalkyl)- or 4'-(acylthioalkyl)-biphenyl derivatives (cf., the definition of the present substituent group X). These compounds are also said to have antibacterial activity (see, page 2, lines 4-6).

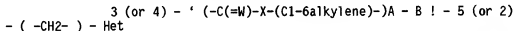
More specifically, D2 discloses (see, the example 29) the compound N-'3-(4-(4'-(1-(2-carboxyethylcarbonyloxy)ethyl)phenyl)phenyl)-2-oxo-oxazolidin-5-ylmethyl acetamide.

The document W0-A-01/94342 (D4) discloses (cf., pages 163-170, claim 1) i.a.
N-(3-'4-(acetylthioalkyl)pyridinyl-phenyl)-2-oxo-oxazolidin-5-ylmethyl)-acetamide derivatives which are also said to have antibacterial activity (see, page 1, first paragraph).
More specifically D4 discloses (see, page 107, the compound of the example 80) the compound
N-(3-'4-'2-(acetylthiomethyl)pyridin-4-yl)-3-fluorophenyl)-2-oxo-oxazolidin-5-ylmethyl)-acetamide which is also excluded from the present claim 1 by virtue of the present proviso (see, the first compound of the present proviso).

In the light of D1, D2 and/or D4 the problem underlying the present application resides in the provision of further (alternative) 2-oxo-oxazolidine derivatives which are useful as antibacterial agents.

Accordingly, the present application proposes the compounds of the present claim 1 in order to solve the given problem.

The only structural feature discernible which is common to all of the compounds of the present claim 1 is the



moiety (wherein W, X, A, B and Het are as defined in the present claim 1).

The documents D1 and D4, however, already teach compounds comprising the said

3 - ' (- \text{C}(=\text{W}) - \text{X} - (\text{C1-6alkylene}) -) \text{A} - \text{B} ! - 5 - (- \text{CH}_2 -) - \text{Het} moiety (cf., (i) the compounds of the examples 124 and 125 of D1 and (ii) the compound of the example 80 of D4) for the same use (antibacterial) as the compounds of the present application.

As the only structural feature which is common to all of the present compounds (i.e., the 3 - ' (- \text{C}(=\text{W}) - \text{X} - (\text{C1-6alkylene}) -) \text{A} - \text{B} ! - 5 - (- \text{CH}_2 -) - \text{Het} group) is not novel (cf., D1 and D4), it cannot represent the "special technical feature" within the meaning of Rules 13.1 and 13.2 PCT.

The present application thus relates to different solutions to the given technical problem (i.e., the provision of further 2-oxo-oxazolidine derivatives which are useful as antibacterial agents) which are not linked by a single general inventive concept as set forth in Rule 13 PCT).

Hence the International Searching Authority considers that the following

nine separate inventions / groups of inventions are not so linked as to form a single general inventive concept:

1. the compounds of the present claim 1 wherein
Het-CH2-R3 represents a 5-(R3-CH2)-2-oxo-oxazolidin-3-yl group, and
A and B are phenyl, which differ from
(i) the prior art D1 (cf., the compounds of the examples 124 and 125) only in that the substituent group B is a phenyl group rather than a pyridinyl group, and
(ii) the prior art D2 (cf., e.g. the compound of the examples 29) only in that they are 4'-(acylaminoalkyl)- or 4'-(acylthioalkyl)-biphenyl derivatives rather than 4'-(acyloxyalkyl)-biphenyl derivatives
(cf., the present claims 1-8 (all partly), 10-15 (all partly), 16, 17, 20 (partly), 21 (partly), 22, 23, and 26-45 (all partly));
2. the compounds of the present claim 1 wherein
Het-CH2-R3 represents a 5-(R3-CH2)-2-oxo-oxazolidin-3-yl group,
A is phenyl, B is selected from pyridyl, pyrazinyl, pyrimidinyl and pyridazinyl,
X is -NR4-, and
M is other than formyl and C1-4acyl
which differ from the specific compounds of their closest prior art D1 (cf., the compounds of the examples 124 and 125) only in that the present substituent group M is other than formyl and C1-4acyl (cf., the present claims 1-4 (all partly), 8 (partly), 10-13 (all partly), and 26-45 (all partly));
3. the compounds of the present claim 1 wherein
Het-CH2-R3 represents a 5-(R3-CH2)-2-oxo-oxazolidin-3-yl group,
A is phenyl, B is selected from pyridyl, pyrazinyl, pyrimidinyl and pyridazinyl, and
X is -NR4NR4-,
which differ from their closest prior art D1 (cf., the compounds of the examples 124 and 125) only in that the substituent group X is a -NR4NR4- group rather than a -NR4- group (cf., the present claims 1-4 (all partly), 8 (partly), 10-13 (all partly), 26-29 (all partly), and 32-45 (all partly));
4. the compounds of the present claim 1 wherein
Het-CH2-R3 represents a 5-(R3-CH2)-2-oxo-oxazolidin-3-yl group,
A is phenyl, B is selected from pyridyl, pyrazinyl, pyrimidinyl and pyridazinyl, and
X is -S-,
which differ from their closest prior art D1 (cf., the compounds of the examples 124 and 125) only in that the substituent group X is -S- rather than -NR4- (cf., the present claims 1-4 (all partly), 8 (partly),

10-13 (all partly), 26-29 (all partly), and 32-45 (all partly));

5. the compounds of the present claim 1 wherein
Het-CH2-R3 represents a 5-(R3-CH2)-2-oxo-oxazolidin-3-yl group,

A is selected from pyridyl, pyrazinyl, pyrimidinyl and pyridazinyl, B is phenyl, and

X is -NR4- or -NR4NR4-,

which differ from their closest prior art D4 (cf., the compounds of the examples 63 and 80) only in that the substituent group X is -NR4- or -NR4NR4- rather than -O- (cf., the example 63 of D4) or -S- (cf., the example 80 of D4) (cf., the present claims 1-7 (all partly), 9-15 (all partly), 18, 19, 20 (partly), 21 (partly), 24, 25, and 26-45 (all partly));

6. the compounds of the present claim 1 wherein
Het-CH2-R3 represents a 5-(R3-CH2)-2-oxo-oxazolidin-3-yl group,

A is selected from pyridyl, pyrazinyl, pyrimidinyl and pyridazinyl, B is phenyl, and

X is -S-, and

M is other than acetyl,

which differ from their closest prior art D4 (cf., the compound of the example 80) only in that the present substituent group M is other than acetyl (cf., the present claims 1-7 (all partly), 9-15 (all partly), 18, 19, 20 (partly), 21 (partly), 24, 25, 26-29 (all partly), and 32-45 (all partly));

7. the compounds of the present claim 1 wherein
Het-CH2-R3 represents a 2-(R3-CH2)-5-oxo-isoxazolin-4-yl group,

which differ from the prior art D1, D2 and D4 essentially in that they are 5-oxo-isoxazoline derivatives rather than 2-oxo-oxazolidine derivatives (cf., the present claims 1 (partly), 4-12 (all partly), and 26-45 (all partly));

8. the compounds of the present claim 1 wherein
Het-CH2-R3 represents a 5-(R3-CH2)-isoxazolin-3-yl group,
which differ from the prior art D1, D2 and D4 essentially in that they are isoxazoline derivatives rather than 2-oxo-oxazolidine derivatives (cf., the present claims 1 (partly), 4-12 (all partly), and 26-45 (all partly));

9. the compounds of the present claim 1 wherein
Het-CH2-R3 represents a 5-(R3-CH2)-2-oxo-5H-furan-3-yl group,
which differ from the prior art D1, D2 and D4 essentially in that they are 2-oxo-furan derivatives rather than 2-oxo-oxazolidine derivatives (cf., the present claims 1 (partly), 4-12 (all partly), and 26-45 (all partly));

INVITATION TO PAY ADDITIONAL FEES

International application No.

PCT/US2004/024334

The different inventions / groups of inventions were formulated in the order chosen by the Applicant.

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